

## **REMARKS**

### **Status of the Claims**

Claims 1 – 4, 6 – 21 and 31 – 33 are pending. No amendments are made in this response.

### **Rejections under 35 U.S.C. § 103(a)**

Claims 1 – 4, 6 – 21 and 31 – 33 remain rejected under 35 U.S.C. § 103(a) as allegedly obvious over the combination of Jebrak and Matthews or the combination of Jebrak, Matthews and Hitzrot, all previously cited.

Applicants reiterate that no *prima facie* case of obviousness has been established based on the combination of Jebrak and Matthews (optionally with Hitzrot) notably since (a) the specific sequence and combination of steps of claim 1 are not disclosed by the combination of the cited references and (b) the person of ordinary skill in the art would have no reason to apply any of the teachings of Matthews in the context of the process taught by Jebrak. These points are discussed in previously filed responses and Declarations and incorporated by reference.

The applicants wish to thank Examiner Takeuchi for granting a telephonic interview on July 2, 2010 with applicants' attorneys Charles Lyon and Jeffrey Buchholz. The Examiner and applicants' attorneys discussed the Examiner's statements in paragraph 2 on page 2 of the Final office action in reference to the Declaration by Dr. Morency that was filed on March 9, 2010 (the "Morency I Declaration"), namely that "said declaration improperly does not compare the instant invention from the art of record." Applicants' attorneys began by noting that the purpose of the Morency I Declaration was to demonstrate that different surfactants behave differently in the context of the claimed process and that phosphates (which are a limitation in claim 1) provide unexpectedly superior results. Applicants' attorneys then pointed out that the Examiner has so far taken the position that Jebrak is the closest art of record and that it describes a general concept of using a "dispersant" in the claimed process (but not specifically phosphates). Assuming *arguendo* that this accurately characterizes the closest prior art then the claimed process would correspond to a selection invention within the genus that was disclosed by Jebrak and it would be entirely appropriate to show that phosphate represent an inventive selection invention by providing a comparison of phosphates with other surfactants as a comparison of "the instant invention from the art of record".

In response to these remarks, the Examiner encouraged applicants to present additional experimental results with a clear explanation of how these demonstrate the unexpectedly superior properties of phosphates in the context of the claimed process. Therefore, in order to advance the present application toward allowance in a timely fashion, the applicants submit herewith a new Declaration by Dr. Morency (the "Morency II Declaration") with additional evidence of non-obviousness. Specifically, the Morency II Declaration demonstrates the differences in performance of a phosphate based surfactant in comparison to equal doses of other surfactants in the same process of decanting a slurry of electric arc furnace (EAF) dust in water.

Four samples were tested. All four samples began with 160 grams of EAF dust from the same source, added to a beaker with 1000 ml of water. The mixtures were each mixed for 5 minutes under high turbulence. Different surfactants were added to Samples 2, 3 and 4 (a phosphate was added to Sample 2). Sample 1 was a control without any surfactant. Each sample was then allowed to decant for five days. Photos of the samples were taken after the 5 days of decanting and are presented in the Morency II Declaration.

As discussed in the Morency II Declaration, Sample 2 (which included the phosphate) behaved quite differently from Samples 3 and 4 (which included a non-phosphate surfactant) and Sample 1 (control without any surfactant). Specifically, the presence of the phosphate in Sample 2 prevented the formation of solid deposits that were observed on the sides of the beaker and on the liquid surface in all three other samples. These solid deposits are thought to include calcium and could only be removed through acid cleaning. In addition, the slurry itself was less dense when the phosphate was included which demonstrates that it has dispersant properties that are particularly well suited to the separation of particles in EAF dust.

Applicants respectfully submit that the results from these experiments which compared phosphate and non-phosphate surfactants under otherwise identical conditions demonstrate the unexpectedly superior properties of phosphates in the context of the claimed process.

## **Conclusion**

Applicants would like to thank the Examiner for his time and consideration of this case. If a telephone conversation would help clarify any issues, or help expedite prosecution of, this case, applicants invite the Examiner to contact the undersigned at (617) 248-4793. Additionally,

please charge any fees that may be required or credit any overpayment to our Deposit Account 03-1721.

Respectfully Submitted,  
CHOATE, HALL & STEWART LLP

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